

REMARKS

Claims 1-18 and 28 are now pending in this application. Claims 1 and 9 are independent claims. Claims 19-27 have been withdrawn from consideration as being directed to a non-elected invention.

Allowable Subject Matter

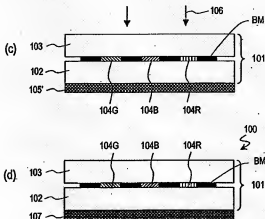
Claim 28 stands objected to. Claims 9-11 are allowed.

Accordingly, Applicants have rewritten claim 28 into independent form.

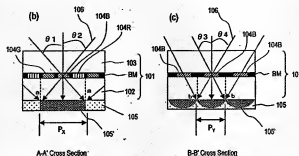
§ 103(a) Rejection

Claims 1-8 and 12-18 have been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,628,355 (Takahara). Applicants have amended claim 1. Applicants respectfully traverse this rejection based on the claims as amended.

A production method for a display panel having a microlens array is disclosed with respect to Figs. 1-4 in the present application. A liquid crystal display panel 101 on which R, G, and B color filters 104R, 104G and 104B corresponding to picture elements are formed is prepared (Fig. 1(a)). As shown in Fig. 1(b), a photocurable resin is applied to the TFT substrate 102 of the liquid crystal display panel.



Then, as shown in Fig. 1(c), by employing a photosensitive material layer which has a sensitive wavelength on the shorter wavelength side of the passing wavelength band of the blue color filters 104B (in particular from 380 nm to 420 nm), it is possible to form microlenses having a very high transmittance in the visible region, as soon as the photosensitive material is allowed to photoreact with the transmitted light 106 through the color filters 104B (see also Fig. 3; of which Figs. 3(b) and 3(c) are shown below).



If irradiation time is constant, curing occurs in accordance with the light distribution. In other words, a distribution of degrees of cure in the photocurable resin layer 105' is created (Fig. 3(c)). After removing uncured portions (see Fig. 1(d)) by subjecting the photocurable resin layer to development, microlenses 107 of shapes corresponding to distribution degrees of cure are obtained. (Specification at ¶¶ [0062] to [0081]).

These steps are reflected in claim 1, wherein the photocurable material layer is partially cured with light which has been transmitted through a first picture element in a display panel having a first picture element to display a first color and a second picture element to display a second color.

In an Advisory Action of April 1, 2009, the Examiner indicated that Fig. 64 shows a photocurable material that is not labeled, and that Fig. 66(b) shows results after uncured material is removed leaving microlenses. Applicants disagree.

Fig. 64 shows a case where the microlenses 641 are used as a mask 181, i.e., the microlenses have previously been formed. In particular, the microlenses 641 are used to phase separate the mixed solution 315 (col. 54, lines 56-67), which is a mixture containing liquid crystal and resin. Applicants submit that the only description as to the previously forming of the

microlenses themselves is that microlenses 641 can be easily fabricated from a metal mold in which ultraviolet ray setting resin is injected into the metal mold and transferred (col. 55, ll. 13-15).

Fig. 66(b) shows a case where color filters 151 are formed as stripes when microlenses 641 in the form of stripes are employed to form the color filters.

Thus, Applicants submit that that Fig. 64 does not show the claimed photocurable material for forming microlenses, and that that Fig. 66(b) does not show uncured material removed.

Telephone Interview

During a telephone interview with the Examiner after the Panel Decision, the Examiner stated that a reason that a decision was rendered to allow the application to go to appeal, is because the panel determined that the manufacturing process described with respect to Fig. 99 of the Takahara reference (along with other previously discussed figures, including Fig. 95) teaches the invention recited in claim 1.

Differences over Takahara

Fig. 99 of Takahara and associated description at column 75 does not show the claimed production method. Unlike Takahara, the claimed invention involves a step of wherein the photocurable material layer is partially cured with light which has been transmitted through at least the first picture element, where the first picture element transmits a first color light. To the contrary, Takahara discloses an acrylic hard coating agent that is irradiated with UV rays to be polymerized. The acrylic hard coating agent is not for example disclosed as being exposed to light through a first picture element of a display panel in order to partially cure the photocurable material layer, as recited in claim 1. Furthermore, the process described with respect to Fig. 99 does not teach a step of removing an uncured portion of the polymerized hard coating agent.

In addition, the process described with respect to Fig. 99 involves irradiation of the acrylic hard coating with ultraviolet rays. Applicants have determined that to use a picture

element having a specific color as a photomask (e.g., a picture element of which the central wavelength is the shortest wavelength as recited in claim 2), the wavelength of light must be no less than 380 nm and no more than 420 nm (see claim 7). Thus, Applicants submit that ultraviolet light (typically having a wavelength shorter than 380 nm) cannot be used for the claimed invention.

For at least these reasons, Applicants submit that the rejection fails to establish *prima facie* obviousness and must be withdrawn.

CONCLUSION

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact **Robert Downs** Reg. No. 48,222 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Dated: July 20, 2009

Respectfully submitted,

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